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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,721	07/24/2001	Song Chen	14303.0116	5513

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EXAMINER	
LEE, JOHN J	

ART UNIT	PAPER NUMBER
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/912,721	CHEN ET AL.	
	Examiner	Art Unit	
	JOHN J. LEE	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *23* is/are allowed.

6)☒ Claim(s) *1,13-16,19,20,24,27,31 and 42-45* is/are rejected.

7)☒ Claim(s) *2-12,17,18,21,22,25,26,28-30,32-41,46 and 47* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments/Amendment

1. Applicant's arguments/amendments received on April 20, 2007 have been carefully considered but they are not persuasive because the teaching of all the cited reference reads on all the rejected claims as set forth in the pervious rejection. Therefore, the finality of this Office Action is deemed proper.

Contrary to the assertions at pages 16 - 18 of the Arguments, claims 1, 24, and 31 are not patentable.

During examination, the USPTO must give claims their broadest reasonable interpretation.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Re claims 1, 24 and 31: Applicant argues that the combination of teaching of Liu (US 7,032,223) and Cheng et al. (US 6,405,309) do not teach the claimed invention "the wireless communication". However, The Examiner respectfully disagrees with Applicant's assertion that the combination of teaching of Liu and Cheng do not teach the claimed invention. Contrary to Applicant's assertion, the Examiner is of the opinion that Liu teaches the xDSL system for wireline system. However, the local wireless access technologies are provided as an alternative proposal for providing high-speed data services in the wireless environment,

replacing wired communication networks such as Cable Modem and x-Digital Subscriber Line (xDSL) in hot spot areas like public spaces and school, or home network environment. Therefore, Cheng teaches a communication system has a digital satellite connection, a wireless connection, RF connection link and plurality of processors for executing in a accordance with communication protocol (Fig. 1 and column 2, lines 54 – column 3, lines 30), It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Liu system as taught by Cheng, provide the motivation to achieve enhancing communication reliability and adaptability in communication network.

Applicant also argues that the limitation "a plurality of application specific instruction set processors and a scheduler that schedules ASISPs in accordance with a time-slicing algorithm" is not disclosed by the combination of teaching of Liu and Cheng. However, The Examiner respectfully disagrees with Applicant's assertion that the combination of teaching of Liu and Cheng do not teach the claimed invention. Contrary to Applicant's assertion, the Examiner is of the opinion that Liu a plurality of application specific instruction circuit have a plurality of processors for processing subsystems and operating a subset of the set of communication protocol (Fig. 1, abstract, and column 5, lines 42 – column 6, lines 6), regarding claimed limitation. Furthermore, Liu teaches the scheduler coordinates transfer of data object to and from a transport convergence data object memory that is shared in common with all the ASIC blocks means coupled to the plurality ASIC processors in accordance with a time-slicing (each of ASIC processing blocks operating in each time slice can be done in either hardware or software) so that computation results from each ASIC TC signal

processing circuit can be passed between other ASICs to form a logical pipeline (column 33, lines 35 – column 35, lines 40, abstract, Fig. 1, 5), regarding the claimed limitation.

Applicant's attention is directed to the rejection below for the reasons as to why this limitation is not patentable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1, 13-16, 19, 20, 24, 27, 31, and 42-45** are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (US Patent number 7,032,223) in view of Cheng et al. (US Patent number 6,405,309).

Regarding **claims 1 and 31**, Liu discloses that a wireless communication system for hosting a plurality of processes, each process in said plurality of processes executed in accordance with a optimizes conversion, the optimizes conversion including a set of functions (Fig. 1 and column 4, lines 22 – column 5, lines 60). Liu teaches that a plurality of application specific instruction (a plurality of application specific instruction circuit) set processors (ASISP) (processors in Fig. 1), each ASISP (Fig. 1) capable of executing a subset of said set of functions included in said communication protocol (column 5, lines 13 – column 6, lines 22, Fig. 1, and column 4, lines 22 - 42, where teaches the a plurality of application specific instruction circuit

set processors operate a subset of the set of communication protocol). Liu teaches that a scheduler (151, 121 in Fig. 1) connected to said plurality of ASISPs (coupled to the processors) for scheduling said plurality of ASISPs in accordance with a time-slicing algorithm so that each process in said plurality of processes is supported (column 33, lines 35 – column 34, lines 13, where teaches any of ASIC processing blocks operating in each time slice can be done in either hardware or software) by said communication system (column 34, lines 14 – column 35, lines 40, abstract, and Fig. 1, 5, where teaches the scheduler coordinates transfer of data object to and from a transport convergence data object memory that is shared in common with all the ASIC blocks means coupled to the plurality ASIC processors in accordance with a time-slicing so that computation results from each ASIC TC signal processing circuit can be passed between other ASICs to form a logical pipeline). Liu does not exactly disclose the limitation "the wireless communication system". However, this would have been obvious to one having ordinary skill in the art at the time of applicant's invention, because the Liu teaches communicating to the remote transceiver over the wireless ATM network (see Fig. 1 and column 21, lines 51 – column 22, lines 3), furthermore, Cheng supportly teaches the limitation "the wireless communication system has a plurality of processors executed in accordance with a communication protocol" (Fig. 1 and column 2, lines 54 – column 3, lines 30, where teaches a communication system has a satellite connection, wireless connection, RF connection link and plurality of processors for executing in a accordance with communication protocol). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Liu system as taught by Cheng, provide

the motivation to achieve enhancing communication reliability and adaptability in communication network.

Regarding **claims 13, 14, 42, and 43**, Liu and Cheng teach all the limitation, as discussed in claim 1. Furthermore, Liu further teaches that communication protocol is selected from the group consisting of IS-95 CDMA, IS-95B CDMA, CDMA TIA IS2000, TIA IS 2000A, wideband CDMA (WCDMA), cdma2000, and ARIB WCDMA (column 3, lines 1 – 9, Fig. 1, and column 4, lines 22 – 42, where teaches the invention applies any particular communications environment for satisfying performance requirements of a communications protocol (CDMA, TDMA, ATM, DSL, ADSL, XDSL) used for the communications transmission).

Regarding **claims 15 and 16**, Liu and Cheng teach all the limitation, as discussed in claims 1 and 13. Furthermore, Liu further teaches that the communication protocol is a time division multiple access protocol (column 20, lines 56 – 61, Fig. 1 and column 35, lines 62 – column 36, lines 2).

Regarding **claims 19 and 44**, Liu teaches that each process in said plurality of processes is an echo (abstract, Fig. 1, and column 7, lines 36 – 65, where teaches each ASIC processor ban be passed (receive and transmit) between other ASICs as operating cycle).

Regarding **claims 20 and 45**, Liu and Cheng teach all the limitation, as discussed in claims 1 and 19.

Regarding **claim 24**, Liu and Cheng teach all the limitation, as discussed in claim 1.

Regarding **claim 27**, Liu and Cheng teach all the limitation, as discussed in claim 1.

Allowable Subject Matter

4. Claim 23 is allowed.

Claim 23 is allowable over the prior art of record because a search does not detect the combined claimed elements as set forth in the claim 23.

As recited in independent claim 23, none of the prior art of record teaches or fairly suggests that providing a centralized controller for sending control commands to each said ASISP in said plurality of ASISPs, and the centralized controller schedules the functions calculated by each said ASISP in said plurality of ASISPs in a master/slave relationship, thereby reducing said amount of inter-process overhead between said computing components in said device, and together with combination of other element as set forth in the claim 23. Therefore, claim 23 is allowable over the prior art of records.

5. Claims 2-12, 17, 18, 21, 22, 25, 26, 28-30, 32-41, 46, and 47 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose "an input register for receiving an input program and state associated with a process in said plurality of processes, each instruction in said input program being part of a limited purpose instruction set that

supports said subset of functions included in said communication protocol and an output register for storing a value that indicates a state of said process after execution of said input program, and the limited purpose instruction set includes a "wait" instruction for synchronization, and each application specific instruction set processors (ASISP) in said plurality of ASISPs is configured so that when said "wait" instruction is received by said input register, the ASISP does execute a communication protocol function during said predetermined period of time and then automatically returns to an idle state thereby reducing a power consumption of the ASISP during the predetermined period of time, and the ASISP is a combiner ASISP and said subset of functions comprises a frequency error estimation, a finger energy estimation, and a signal-to-interference (SIR) estimation, and each said ASISP in said plurality of ASISPs is capable of executing said subset of said set of functions on a time-scale of about 400 to about 5,000 times per second" as specified in the claims.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231
Or P.O. Box 1450
Alexandria VA 22313

or faxed (571) 273-8300, (for formal communications intended for entry)

Or: (703) 308-6606 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters, Alexandria, VA.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is **(571) 272-7880**. He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00 pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Edward Urban**, can be reached on **(571) 272-7899**. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

J.L
June 22, 2007

John J Lee

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